



TECHNICAL DATA

CALDE™ PLAST F 45 AB HP

PRODUCT TYPE	: Alumina - Silica product Plastic material
Maximum recommended temperature	: 1500°C
Main component	: Chamotte
Type of bond	: Ceramic
Appearance	: Wet, ready to use
Packaging	: Boxes (in slices)
Shelf life	: 12 months
Installation method	: Ramming
Maximum grain size	: 6 mm
Material required	: 2.25 T/m ³
Observation	: Material is not quite free of sulphate in the bond
Guidelines	: Installation Nr 1

PRODUCT PROPERTIES	STANDARD	AVERAGE VALUES	UNITS
<u>CHEMICAL ANALYSIS</u>			
SiO ₂	EN 1402-3	52.0	%
Al ₂ O ₃	EN 1402-3	44.5	%
Fe ₂ O ₃	EN 1402-3	1.0	%
<u>PHYSICAL PROPERTIES</u>			
<u>Measured on samples prepared according to</u>	EN 1402-5		-
<u>Bulk density</u>			
after drying at 110 °C	EN 1402-6	2.14	g/cm ³
after firing at 800 °C	EN 1402-6	2.06	g/cm ³
<u>Cold crushing strength</u>			
after drying at 110 °C	EN 1402-6	5	MPa
after firing at 1000 °C	EN 1402-6	30	MPa
after firing at 1200 °C	EN 1402-6	20	MPa
after firing at 1400 °C	EN 1402-6	20	MPa
<u>Permanent linear change</u>			
after drying at 110 °C	EN 1402-6	-1.5	%
after firing at 1000 °C	EN 1402-6	-1.8	%
after firing at 1200 °C	EN 1402-6	-1.9	%
after firing at 1400 °C	EN 1402-6	-2.0	%
<u>Thermal conductivity</u>			
at a mean temperature of 800 °C	EN 993-15	1.12	W/mK
at a mean temperature of 1000 °C	EN 993-15	1.18	W/mK
at a mean temperature of 1200 °C	EN 993-15	1.24	W/mK
<u>Reversible thermal expansion after firing [20-1000 °C]</u>	-	0.63	%

Commercial Code : MAP40017

Version : 10

Date : 14/11/2012

The data are current production averages. They cannot be used as limits for a specification.

CALDERYS

Comments on the *TDS* (Technical Data Sheet)

This product is a composition of different raw materials.

All data presented refer to the bulk density as stated and to the relevant standards for the preparation of test pieces.

1-PRODUCT TYPE: According to EN 1402

2-MAXIMUM RECOMMENDED TEMPERATURE:

The given temperature is a summary of:

- RUL (Refractoriness Under Load) – measurements
- PLC (Permanent Linear Change) of test samples fired at elevated temperatures.
- Visual appearance of the fired test sample.
- Practical experiences

The temperature is based on the product being heated on one face only, in a non corrosive atmosphere.

Heating on more than one face, mechanical load, or the presence of dust, gases, slag or metal can decrease the maximum recommended service temperature.

3-MAIN COMPONENT(s); According to EN 1402

4-TYPE OF BOND: according to ISO 1927 and EN 1402.

Where several bonds are used together, the bond is designated according to the nature of that bond which plays the principal part during hardening.

5-SHELF LIFE:

The period indicated begins with the date of production and is based on the storage under cool, dry, frost-free conditions. If this period is exceeded, material does not necessarily become useless. In this case, it is recommended that the material should be checked after consulting Calderys. A bad storage conditions may affect the storage life of the material.

6-INSTALLATION - METHOD:

In some cases, Calderys products can be applied by different installation methods.

All figures on this Technical Data refer to the installation method mentioned hereunder. For other installation methods, see "remarks".

7-MAXIMUM GRAIN SIZE: Determined according to EN 1402

8-MATERIAL REQUIRED (Yield):

The figure refers to the material as delivered for placing 1m³ volume by applying the installation technique as mentioned. For gunning materials, the figure includes compensation for rebound under standard conditions. For no standard conditions, for instance gunning of thin layers or overhead gunning may increase the amount of material required.

In some cases, if the rebound is not included, the information is written near the "material required" (yield) value.

9-DRINKING WATER REQUIRED FOR MIXING ON SITE:

The consistency of the products can be adjusted within the specified range of liquid addition. In case of water, potable one has to be used (see the Installation Guideline).

10-GUIDELINES: The "Installation Guidelines", written by CALDERYS, are dedicated to each known case, when possible. Those documents have to be carefully read before preparing, installing and drying the product. ATTENTION: All our "Installation Guidelines" dedicated to hydraulic bonded products supposed to show the problem call "carbonation or Efflorescence", have been modified. Means Guidelines Nr. 5, 6, 7, 9, 20, 21, 23.

11-CHEMICAL ANALYSIS: Carried out according to EN 1402

12-BULK DENSITY: Determined according to EN 1402

13-OPEN POROSITY: Determined according to EN 1402.

14-COLD CRUSHING STRENGTH: Determined according to EN 1402

15-PERMANENT LINEAR CHANGE: Determined according to EN 1402

16-THERMAL CONDUCTIVITY:

For the determination of the thermal conductivity figures, laboratory tests and results achieved under practical conditions were taken into consideration. For the determination of the thermal conductivity figures, laboratory tests and results achieved under practical conditions were taken into consideration. Measurements are made according to EN 1402-8 and EN 993-15.

17-CARBON MONOXIDE RESISTANCE: Determined according to ISO 12676 (ASTM C-288)

18-ABRASION RESISTANCE AFTER FIRING AT...: Determined according to ASTM C-704

19-REVERSIBLE THERMAL EXPANSION AFTER FIRING [20-1000°C]: The figure is measured by RUL test according to ISO 1893.

20-THERMAL SHOCK RESISTANCE: When available, according to DIN EN 993-11 and CALD 022 (also linked to internal methods CALD 007 and CALD 012).